

SHOCK

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Introduction

- Life-threatening condition
- Result from a number of primary causes
- Be aware of physiologic effects of shock
 - Be able to detect
 - Report the development or worsening of this very serious condition

TLO

CONDITION: Given a list of types of shock.

ACTION: Identify the causes, signs, and symptoms of each.

STANDARD: IAW cited references.

ELO

ELO A: Given a list of terms and definitions relating to shock match each term to its definition

ELO B: Given the appropriate information identify the causes, signs and symptoms, and treatment of hypovolemic shock.

ELO C: Given the appropriate information identify the causes, signs and symptoms, and treatment of cardiogenic shock

ELO

ELO D: Given the appropriate information identify the causes, signs and symptoms, and treatment of Neurogenic Shock

ELO E: Given the appropriate information identify the causes, signs and symptoms, and treatment of anaphylactic shock

ELO F: Given the appropriate information identify the causes, signs and symptoms, and treatment of Psychogenic Shock

Types of Shock

- Hypovolemic Shock
- Non-hemorrhagic Shock
 - Cardiogenic Shock
 - Neurogenic Shock
 - Anaphylactic Shock/Vasogenic Shock
 - Psychogenic Shock

Definition of Shock

A state of inadequate tissue perfusion resulting in decreased amount of oxygen to vital tissues and organs leading to reduced removal of waste products of metabolism

Causes of Shock

- Heart attack
- Severe or sudden blood loss
- Large drop in body fluids
- Major infections
- Long exposure to extreme heat or cold

Common Signs of Acute Shock

- Progressive fall in systolic and diastolic BP
- Cold, clammy and pale skin
- Cyanosis
- Rapid, weak, thready pulse
- Shallow, rapid breathing
- Oliguria
- Listlessness, stupor, and loss of consciousness as condition deteriorates

Hypovolemic Shock

- Most common cause is hemorrhage
- Volume of fluid reduced
- Can not maintain adequate circulation
- Caused by:
 - Severe burns
 - Protracted vomiting and diarrhea
 - Hemorrhage

Clinical Signs of Acute Hemorrhagic Shock

% Blood loss	Clinical Signs
< 15	Slightly increased heart rate, local swelling, bleeding
15-25	Increased heart rate, increased diastolic blood pressure, prolonged capillary refill
25-50	Above findings plus: hypotension, confusion, acidosis, decreased urine output
> 50	Refractory hypotension, refractory acidosis, death

Treatment for Hypovolemic Shock

Goals - Increase tissue perfusion and oxygenation status

- Maintain airway
- Control bleeding
- Baseline vital signs
- Level of consciousness

Treatment for Hypovolemic Shock

- Position casualty/ elevate legs
- Keep patient at normal temperature
 - **Prevent hypothermia**
 - **Minimize effect of shock**
- Fluid therapy
- Drug therapy
- On-going assessment - every 10-15 minutes

Non-Hemorrhagic Shock

- Cardiogenic Shock
- Septic Shock
- Neurogenic Shock
- Anaphylactic Shock/Vasogenic Shock
- Psychogenic Shock

Cardiogenic Shock

- Decrease in contractions/contractile ability of the myocardium
- Heart fails to circulate blood efficiently
- Reduction in cardiac output results in:
 - Decreased circulating blood supply
 - Decreased oxygen delivery

Signs & Symptoms Cardiogenic Shock

- Chest pain
- Irregular, weak pulse
- Low BP
- Cyanosis
- Anxiety

Cardiogenic Shock

- **Assess for:**

- Tachycardia
- Muffled heart sounds
- Engorged neck veins with hypotension
- Dyspnea
- Edema in feet and ankles

Treatment for Cardiogenic Shock

- Place patient in a position of comfort
- Oxygen therapy
- Assist ventilation

Neurogenic Shock

Decreased arterial resistance

**Peripheral vasodilation resulting
from nervous system failure**

Caused by:

- Spinal cord injury
- Certain drugs
- Brain stem, spinal or torso trauma

Neurogenic Shock

Signs and Symptoms:

- Hypotension without tachycardia
- Bradycardia
- Warm pink skin
- Low blood pressure

Treatment for Neurogenic Shock

- Keep patient at normal temperature
- Secure airway/ Assist ventilation
- Administer oxygen
- Baseline vital signs
- Level of consciousness
- Position casualty

Anaphylactic Shock/ Vasogenic Shock

Onset within 30 minutes of exposure

Primary systems:

- **Cardiovascular**
- **Respiratory**
- **Cutaneous**
- **Gastrointestinal**
- **Circulatory**

Anaphylactic Shock/ Vasogenic Shock

Diffuse vasodilation

Increase size of vascular bed

Blood is trapped in small vessels and
viscera

Temporary loss in total circulatory volume

Anaphylactic Shock/ Vasogenic Shock

Sudden severe allergic reaction to:

- Drugs
- Toxins
- Insect stings
- Foods
- Plants

Signs & Symptoms Anaphylactic Shock/ Vasogenic Shock

- Rapid, weak pulse
- Blood pressure drops
- Tightness in chest or difficulty breathing
- Wheezing or shortness of breath
- Sneezing or coughing

Signs & Symptoms Anaphylactic Shock/ Vasogenic Shock

- Generalized itching or burning
- Hives
- Watery and itching of the eyes
- Cyanosis
- Apprehension and flushing
- Coma

Treatment for Anaphylactic Shock

- Secure airway
- Terminate exposure to causative agent
- First-line therapies, during acute stage
 - Epinephrine
 - IV fluids
 - Oxygen
- Second-line therapies
 - Antihistamines
 - Corticosteroids
- Evacuate

Psychogenic Shock

Causes, signs and symptoms of psychogenic shock

- A sudden dilation of the blood vessels takes place in response to an emotional or traumatic situation.
- Signs/Symptoms: Rapid pulse, Normal or low blood pressure.

Treatment for Psychogenic Shock

- Determine duration of unconsciousness
- Record initial vital signs and mental status
- If patient is confused or slow to regain consciousness, suspect head injury

Learning Check

Type	Definition
Hypovolemic	Failure of the nervous system to maintain the diameter of the peripheral vascular system.
Cardiogenic	A sudden dilation of the blood vessels takes place in response to an emotional or traumatic situation.
Neurogenic	A result of an immediate hypersensitivity reaction that causes the blood vessels to dilate and the tissues lining the respiratory system to swell.
Anaphylactic	Caused by the heart failing to circulate oxygenated blood efficiently to the tissues.
Psychogenic	The most common type of shock resulting from acute blood loss and other fluids.

Review

- What are some causes of hypovolemic shock?
- Identify the types of non-hemorrhagic shock.
- What are the causes of anaphylactic shock? What are the associated symptoms?

Review

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Review

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Summary

- **Shock is a very serious condition**
- **Early detection**
- **Prompt medical intervention**
- **Monitor casualties susceptible to shock**
- **Be prepared to assist**
- **Early identification and treatment essential**

Questions